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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,725	04/13/2006	Koichi Hasegawa	2006_0570A	1683

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EXAMINER

MORILLO, JANELLE COMBS

ART UNIT	PAPER NUMBER
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1793

NOTIFICATION DATE	DELIVERY MODE
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02/22/2010

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/575,725	Applicant(s) HASEGAWA ET AL.	
	Examiner Janelle Morillo	Art Unit 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/31/09, 11/10/09.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-26 is/are pending in the application.
- 4a) Of the above claim(s) 17-20 and 22-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21 and 26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submissions filed on July 31, 2009 and November 10, 2009 have been entered.

Election/Restrictions

2. Newly submitted claims 17-20, 22-25 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:

- I. Claim 17 & 22, drawn to Ag alloy consisting of various alloying elements, classified in class 420, subclass 502.
- II. Claims 18 & 23, drawn to Ag alloy consisting of various alloying elements, classified in class 420, subclass 505.
- III. Claims 19 & 24, drawn to Ag alloy consisting of various alloying elements, classified in class 420, subclass 504.
- IV. Claims 20 & 25, drawn to Ag alloy consisting of various alloying elements, classified in class 420, subclass 503.
- V. Claims 21 & 26, drawn to Ag alloy consisting of various alloying elements, classified in class 420, subclass 503.

The inventions are distinct, each from the other because of the following reasons:

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3. Inventions I, II, III, IV and V are directed to related Ag alloys. The related inventions are distinct if: (1) the inventions as claimed are either not capable of use together or can have a materially different design, mode of operation, function, or effect; (2) the inventions do not overlap in scope, i.e., are mutually exclusive; and (3) the inventions as claimed are not obvious variants. See MPEP § 806.05(j). In the instant case, the inventions as claimed the inventions do not overlap in scope/ are mutually exclusive, due to the “consisting of” closed claim language. Furthermore, the inventions as claimed do not encompass overlapping subject matter and there is nothing of record to show them to be obvious variants.

4. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 17-20, 22-25 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 21 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hensel (US 2,450,340) in view of Croce (US 6,841,012).

7. Hensel teaches an alloy for metal evaporation, for coating a thin film (column 2 lines 11-12, 18-19). Hensel teaches a silver alloy with added phosphorus, and in particular, containing (in

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weight%): 0.001-1% P, 0.25-20% Pt and Pd, 0.001-0.5% Ni, Co, and Fe (column 1 lines 47-55), which overlaps the ranges of P, Pt, Pd, Ni, Fe in instant claim 21. The prior art of Hensel does not teach the mandatory addition of any additional elements excluded by the closed "consisting of" transitional phrase. Though Hensel does not mention the purity of the silver or the purity of the added elements, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used high purity starting materials, in order to obtain a low impurity level Ag alloy with predictable behavior.

Hensel does not teach the addition of In, Sn, or Zn. However, Croce teaches that >0 to 1% In is included in Ag alloys in order to provide the predictable purpose of improving ductility and casting of the alloy (column 4 lines 6-7). Alternatively, Hensel teaches >0-2% Sn is added to Ag alloys in order to improve hardness and ductility of the alloy (column 4 line 7-9). Hensel teaches >0-5% Zn adds to the whiteness of the alloy (column 4 line 4). It would have been obvious to one of ordinary skill in the art to have added In, Sn, and/or Zn to the Ag alloy taught by Hensel, because Croce teaches that the addition of said elements have various beneficial predictable results (as discussed above).

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility. Additionally, "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages," *In re Peterson*, 65 USPQ2d at 1379 (CAFC 2003).

Concerning claim 26, as stated above, Hensel teaches forming a thin film of said alloy.

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Response to Amendment/Arguments

8. In the response filed on 7/31/2009 and 11/10/2009 applicant canceled pending claims 1-16 and added new claims 17-26. The examiner agrees that no new matter has been added.

9. Applicant's argument that the present invention is allowable over the prior art of record because Hensel teaches elements excluded by the instant claim language has not been found persuasive. The prior art of Hensel does not teach the mandatory addition of any additional elements excluded by the closed "consisting of" transitional phrase.

10. The declaration under 37 CFR 1.132 filed 11/10/2009 is insufficient to overcome the rejection of claims 21 and 26 based upon Hensel as set forth in the last Office action because: the examiner agrees that declarant has shown examples that fall within the claimed invention exhibit unexpected results with respect to comparative examples. However, a) it is not clear that the entire claimed alloying ranges would be expected to behave in a manner consistent with the examples of the invention (4-1 and 5-1)/no nexus has been established between the examples of the invention and the claimed invention, and b) no nexus has been established between the closest prior art of Hensel and the comparative examples.

Further concerning a), Applicant should establish a nexus between the rebuttal evidence and the claimed invention, i.e., objective evidence of nonobviousness must be attributable to the claimed invention, see MPEP 2144.08. The weight attached to evidence of secondary considerations by the examiner will depend upon its relevance to the issue of obviousness and the amount and nature of the evidence, see MPEP 716.01(b). Note the great reliance placed on this type of evidence by the Supreme Court in upholding the patent in *United States v. Adams*, 383 U.S. 39, 148 USPQ 479 (1966). To be given substantial weight in the determination of obviousness or nonobviousness, evidence of secondary considerations must be relevant to the subject matter as claimed, and therefore the examiner must determine whether there is a nexus between the merits of the claimed invention and the evidence of secondary considerations. *Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 305 n.42, 227 USPQ 657, 673-674 n. 42 (Fed. Cir. 1985), cert. De-ied, 475 U.S. 1017 (1986). In the instant case, it is unclear if the instant claims would be expected to behave in a manner consistent with the tested example. For instance, it is unclear if Example 4-1 with 0.01% P, 0.58% Pt, 0.29% In, balance

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Ag is representative/expected to behave in a manner consistent with the claimed alloying ranges of claim 21: 0.008-1% P, 0.01-5% Cu, Ni, Fe, Bi; 0.01-2.0% In, Sn, and Zn; 0.01-0.9% Au &/or 0.01-5% Pd &/or 0.01-0.9% Pt, Balance Ag.

Further concerning b), evidence of unexpected properties may be in the form of a direct or indirect comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and MPEP §716.02(d) - § 716.02(e). With respect to said indirect comparison, applicant a) may compare the claimed invention with prior art that is more closely related to the invention than the prior art relied upon by the examiner, *In re Holladay*, 584 F.2d 384, 199 USPQ 516 (CCPA 1978); Ex parte Humber, 217 USPQ 265 (Bd. App. 1961), or b) show criticality of the instant range. To establish unexpected results over a claimed range, applicants should compare a sufficient number of tests both inside and outside the claimed range to show the criticality of the claimed range. *In re Hill*, 284 F.2d 955, 128 USPQ 197 (CCPA 1960). In the instant case, declarant has not stated (in a 1.132 declaration) that the comparative example (4-2) is closer to the claimed invention than the closest example of Hensel (column 1 lines 39-42- 0.04% P, 4.97% Pt, balance Ag). Therefore, applicant has not clearly shown unexpected results with respect to the closest prior art of Hensel.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 7:30 am- 4:00 pm Mon-Wed.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/
Supervisory Patent Examiner, Art Unit
1793

/J. M./
Examiner, Art Unit 1793
February 9, 2010